

# PROSPECTIVE ELEMENTARY SCHOOL TEACHER'S WAYS OF INTERNET USE WHILE PREPARING THEIR PROJECTS AND HOMEWORKS

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## ABSTRACT

The purpose of this study is to determine the level of internet use by prospective elementary school teachers in preparation of projects and assignments. The findings of the study indicated that internet use of prospective teachers is at the average level and gender is not a significant variable. Moreover, personal internet access and frequency of internet use emerged as important factors.

**Keywords:** Projects and Homeworks, Internet, Prospective Teachers

## INTRODUCTION

The learning process of students in a learning environment is shaped as a result of their own learning pace. Therefore, it is inevitable that while some students learn quickly some others could not get closer to the same speed. In this context, it might be very difficult to achieve overall and behavioral objectives of a lesson within a single course hour although the backgrounds of the students are satisfactory in terms of instructional and educational aspects. Regarding this fact, individual learning differences among the students might be set aside through some out-of-class activities such as assignments and projects. Thereby effective learning might be achieved among students (Gündüz, 2005; Albayrak, Yıldız, Berber & Büyükkasap, 2004). Such out-of-class activities can be considered as regulating factors which facilitate efficient learning processes (Gündüz, 2005). Out-of-class learning activities such as projects and assignments might grant a superior visualization for teachers to observe and evaluate the learning circumstances of their students. Additionally, some professionals in the field believe that while learning how to use web pages effectively for their projects and assignments, students also might gain valuable inputs which they could not accomplish during class hours (U.S. Department of Education, 2005; Collis, Boer & Slotman, 2001).

The rapid developments in instructional technologies, particularly in computer technologies, lead enormous changes in the ways of obtaining information and thus it becomes easier to obtain information (Odabaşı, 2000). Internet is one of the noteworthy technological developments providing an enormous information bank with its ease to access. Educational and instructional information sources on internet serve great opportunities for students in support of their projects and assignments (Yavuz & Karaman, 2004; Erdem & Akkoyunlu, 2002; Collis, Boer & Slotman, 2001). Concerning the fact that accessing to the information is crucial for out-of-class activities such as projects and assignments, it is obvious that internet becomes a popular resource along with the developments in instructional technologies and ease in accessing the information.

Regarding its structure and its infinite content of versatile and current information, internet can be assumed as an immense information pool that can be easily accessed after learning a few and simple necessary skills. Another characteristic of the internet is its rapid and continuous growth and hosting up-to date information. For instance, there were about 22 million documents published on the web in 1996, but by the year 2005 it was inflated to 200 million documents. With this respect, internet becomes a primary source of information which can be used by students for their assignments and projects that can be planned as either controlled or free activities (Akbaba-Altun & Altun, 2006; Wirken, 2006; Lenhart, Simon & Graziano, 2001; Lindsay & McLaren, 2000; Pugalee & Rich, 1998).

Internet also offers an effectual and easy access to the information that was stored in its enormous information content. By means of internet, individuals might have access to the outstanding libraries on the world, web pages of educational institutions, and other online databases. Moreover, students can make searches in those databases for books or articles and even they might design experiments in simulated environments (Hepkul, 2004; Erdem & Akkoyunlu, 2002). Furthermore, by means of using internet, students might get in touch with other students in other classes, in other regions or even in other countries and might conduct research projects with them as well as exchanging ideas with other students or getting professional support from scholastic authorities (Akkoyunlu, 2004). Accordingly, students' use of internet actively and their being autonomous learners have enhanced the importance of internet use as an educational instrument (Muehleisen, 1997).

Besides its being a deep information source, internet also presents a variety of information on various topics. Its multidimensional sources such as text documents, audio files, images and multimedia files excite individuals' interests and causes significant changes in the information access routines of students. Findings of a study conducted by Callan and Oddie (1999) revealed that students consider web based materials as more efficient, more joyful, more economic and more trouble-free than traditional published materials. In another study conducted by Owen (2001), students stated that they can easily find essential information on internet and they generally prefer to use it while gathering information. In a recent study which was conducted in Turkish context, Gündüz and Gürcan (2004; 353-354) found out that undergraduate students highly make use of

internet as a source for their assignments.

Various types and forms of information can be accessed via internet and in some occasions, individuals may publish their own projects and assignments on the internet in an attempt to enable others to make use of those projects and assignments (Yavuz & Karaman, 2004; Hepkul, 2004; Owen, 2001). As Livingstone and Bober's (2004) study exposed, students consider internet as an important and beneficial tool for their assignments. It can be claimed that internet is a very efficient information source for activities such as projects and assignments since it transmits a great deal of recent and multidimensional information.

### *The Purpose of the Study*

The main purpose of the present study is to figure out the prospective elementary school teacher's ways of internet use while preparing their projects and homework. Regarding this aim the following research questions are posed;

1. What is the level of internet use among the prospective elementary school teachers while preparing their homework and projects?
2. What are the main internet sources that the prospective elementary school teachers refer while preparing their homework and projects?
3. Is there a difference in the prospective elementary school teachers' internet use while preparing their homework and projects in terms of their;
  - Gender,
  - Grade,
  - Computer competency,
  - Availability of personal internet access ,
  - And internet use frequencies.

## **METHOD**

### *Research Model*

The present study aimed at exploring internet use by undergraduate students in preparing their projects and assignments. Its participants are the students of Elementary School Teacher Training program in Educational Faculty at Anadolu University. The research model employed in this study is a survey model of research.

### *Scope and Participants*

The research was conducted with the participation of 294 prospective teachers who enrolled in 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup> and 4<sup>th</sup> grades in the Elementary School Teacher Training Department of Faculty of Education at Anadolu University. Demographic information of the prospective teachers participating in the present study is summarized in Table 1 below.

Table 1: Demographic Information of the participants

Features	f	%
<b>Gender</b>		
Female	187	63.6
Male	107	36.4
<b>Grades</b>		
1 <sup>st</sup> Grade	75	25.5
2 <sup>nd</sup> Grade	69	23.5
3 <sup>rd</sup> Grade	72	24.5
4 <sup>th</sup> Grade	78	26.5
<b>Computer Competence</b>		
High	99	33.7
Medium	161	54.8
Low	34	11.6
<b>Personal Internet Access</b>		
Available	84	28.6
Not available	210	71.4
<b>Weekly Internet Use</b>		
1-4 Hours	144	49.0
5-8 Hours	71	24.1
More than 9 Hours	31	26.9
<b>Total</b>	<b>294</b>	<b>100.0</b>

As can be seen in Table 1, 63.6% of the prospective teachers are female, while 36.4% are male. In terms of the years in the program, 25.5% of the participants are the first graders, 23.5% are the second graders, 24.5% are the third graders and 26.5% are the fourth graders. 33.7% of the participants have high, 54.8% have medium and 11.6% have low level of computer competency. In terms of personal internet access, only 28.6% of the participants have internet access at their home and 71.4% of them do not have any internet access at home. Concerning the time that the participants spend on the internet, 49% of the participants spend about 1 to 5 hours, 24.1% spend 5 to 8 hours and 26.9% spend 9 hours or more per week.

### *Data Collection and Analysis*

Data of the present study was collected through a questionnaire which was developed by the researchers. The responses to the items in the questionnaire were scored on a five point Likert scale where "absolutely disagree=1", "disagree=2", "undecided=3", "agree=4" and "absolutely agree=5". Scoring for negatively stated questions was reversed. Moreover, the scores were classified as, "very low=1.00-

1.79", "low=1.80-2.59", "average=2.60-3.39", "high=3.40-4.19" and "very high=4.20-5.00" subsequently and were interpreted accordingly. In data analysis procedure, frequency, percentile and means were used along with t-test and

ANOVA. Additionally, Tukey's HSD test was employed as a post hoc test. In terms of significance level, p value is defined as .05.

### Findings and Discussions

In order to figure out the factors affecting prospective teachers' internet use in preparation their projects and assignments, gender, grades, computer competency, personal internet access and weekly frequency of internet use is examined. The data on prospective teachers' internet use for their project and assignment preparation are presented in Table 2 below

.Tablo 2: Perceptions of the prospective elementary school teachers related to the ways of Internet Use in preparing their projects and assignments

<b>Prospective Elementary School Teacher's Ways of Internet Use in Preparing Their Projects and Assignments</b>	<b>N</b>	<b><math>\bar{X}</math></b>	<b>sd</b>
<b>Using the Internet sources</b>	<b>294</b>	<b>3.19</b>	<b>0.708</b>
I make use of search engines for my projects and assignments	294	4.26	1.142
I make use of online databases for my projects and assignments	290	2.56	1.179
I make use of e-books for my projects and assignments	292	3.02	1.252
I make use of assignment web sites for my projects and assignments.	290	3.58	1.298
I make use of e-journals for my projects and assignments	290	2.84	1.202
I make use of online libraries for my projects and assignments	290	3.33	1.228
I make use of online encyclopedias for my projects and assignments.	291	3.37	1.254
I get help from others through e-mail for my projects and assignments.	293	3.35	1.309
I make use of e-newspapers for my project and assignments	293	3.01	1.218
I collaborate with other internet users through the discussion forums on the internet for my projects and assignments.	288	2.59	1.224
<b>Using Internet sources</b>	<b>294</b>	<b>3.59</b>	<b>0.798</b>
I use the internet sources without making any change	294	3.36	1.205
I blend the information which I have accessed through internet sources with other information sources.	289	3.88	1.047
I internalize the information that I have accessed through internet and use it on my own words.	294	3.55	1.040
<b>The content of the internet sources</b>	<b>294</b>	<b>3.54</b>	<b>0.830</b>
I use the text documents on the web pages for my projects and assignments	292	3.66	1.007
I use the images on the web pages for my projects and assignments.	291	3.86	0.966
I use the audio files on the web pages for my projects and assignments.	292	3.12	1.221
<b>Reliability of internet sources</b>	<b>294</b>	<b>3.42</b>	<b>0.687</b>
I crosscheck the accuracy of information that I have accessed through internet sources with other information sources.	293	3.54	1.041
I believe the confidence of information on the internet	292	2.97	1.037
I pay attention to the internet addresses which I have used for my projects and assignments as to having "gov" or "edu" domain suffixes.	291	3.06	1.192
I check the up to dateness of the sources that I have access through internet	290	3.55	1.102
I make sure weather the documents that I have accessed through internet have an author or not.	293	3.29	1.098
I make sure weather the documents that I have accessed through internet have educational purposes or not.	294	3.69	1.066
I make sure weather the documents that I have accessed through internet have a scientific language or not.	292	3.51	1.076
I make sure weather the documents that I have accessed through internet have an unbiased written language or not.	287	3.79	1.060
<b>Access to internet sources</b>	<b>294</b>	<b>3.33</b>	<b>0.592</b>
I make use of internet sources in Turkish language for my projects and assignments	294	4.00	1.060
I make use of internet sources in foreign languages for my projects and assignments	293	2.50	1.201
I have difficulty in finding proper internet sources for my projects and assignments	292	3.49	1.037
<b>General</b>	<b>294</b>	<b>3.36</b>	<b>0.504</b>

According to Table 2, the average score for prospective teachers in *using internet resources* is 3.19. Accordingly, the level of internet use by the participants can be said to be "average". Online database use by the participants (2.56) and collaboration with other internet users through online forums (2.59) is at a low level. Use of e-journals (2.84), e-newspapers (3.01), e-books (3.02), online libraries (3.33), collaboration through e-mail (3.35) and online encyclopedias (3.37) can be said to at an *average* level. Moreover, use of online assignment web sites by the participants (3.58) is at a high level while use of search engines (4.26) is very high. The average score for *internet source use* by the participants is 3.59. Regarding this result, it can be claimed that internet source use by prospective teachers is at a high level. Furthermore, the participants' tendency of contributing to internet sources (3.36), internalization of information (3.55) and blending of information from internet sources with other information sources (3.88) can be said to be at a high level. Participants' average score on *content of internet sources used* for preparing assignments and projects is 3.54. Therefore, the participants' score average for this item is also high. Content of internet sources used by prospective teachers in projects and assignments preparation is at an average level

(3.12) for audio materials while the levels for text documents (3.66) and image materials (3.86) are high. Moreover, the average score for *confidence in internet materials* by the participants is high with score of 3.42. In this category; accepting information content of internet resources as confident (2.97), attention to generic top-level domain suffixes, such as gov and edu (3.06) and attention to author of internet sources being cited (3.29) is at an average level, attention to scientific language of internet information source (3.51), crosschecking the accuracy of information content through other information resources (3.54), checking up to dateness of information content (3.55), making sure that the information resource is an education oriented website (3.69) and attention to unbiased language in information content (3.79) can be said to be at a high level. Additionally, the use of internet sources in foreign languages by the participants in their project and assignment preparation (2.50) is at a low level while use of sources in Turkish language (4.00) is high. Furthermore, prospective teachers' lack of finding appropriate internet sources for project and assignment preparation (3.49) is also at a high level. The overall average score for internet use for project and assignment preparation by the participants is 3.36 which indicates that prospective teachers make use of internet sources for their project and assignment preparation is at an average level.

Table 3: Internet Use of Prospective Teachers in their Project and Assignment Preparation in terms of Gender

Groups	N	$\bar{X}$	SD	df	t	p
Female	187	3.36	.50	292	.270	.787
Male	107	3.37	.52			

According to data in Table 3, average scores of female (3.36) and male (3.37) are very close to each other and both groups have an average use of internet in their project and assignment preparation. Results of t test between the two genders ( $t_{292}=.270$ ;  $p>.05$ ) indicates that there is no significant difference between the gender groups.

Table 4.:Prospective Teachers' Internet Use in their Project and Assignment Preparation concerning their Grades.

Grades	N	$\bar{X}$	SD
1 <sup>st</sup> Grade	75	3.29	0.450
2 <sup>nd</sup> Grade	69	3.42	0.498
3 <sup>rd</sup> Grade	72	3.51	0.497
4 <sup>th</sup> Grade	78	3.25	0.535

Concerning the data in Table 4, it can be claimed that the 1<sup>st</sup> graders (3.29) and the 4<sup>th</sup> graders (3.25) make use of internet in the average level, whereas, 2<sup>nd</sup> graders (3.42) and 3<sup>rd</sup> graders (3.51) make use of internet at higher level in preparing their projects and assignments. In order to test the statistical significance of difference between these groups, a further analysis is made through ANOVA, and its results depicted in Table 5.

Table 5: ANOVA Results of Prospective Teachers' Internet Use in their Project and Assignment Preparation concerning their Grades.

Source of Variance	df	SS	MS	F	P
Between groups	3	3.247	1.082	4.395	0.000
Within groups	290	71.409	0.246		
Total	293	74.656			

As can be seen in Table 5, F value obtained through ANOVA is statistically significant ( $F_{3,290}=4.395$ ;  $p<.05$ ). To determine the origin of this difference Tukey's HSD test was employed. Regarding the Tukey's HSD test results, a significant difference between 3<sup>rd</sup> and 1<sup>st</sup> grade as well as between 4<sup>th</sup> and 3<sup>rd</sup> grade prospective teachers is observed, that is, the results were in favor of 3<sup>rd</sup> grades in both groups. According to this data, it can be assumed that 3<sup>rd</sup> grade prospective teachers have a higher level of internet use in their project and assignment preparation.

Table 6.:Prospective Teachers' Internet Use in their Project and Assignment Preparation concerning their Computer Competency.

Computer Competence	N	$\bar{X}$	SD
High	99	3.52	0.521
Medium	161	3.31	0.482
low	34	3.14	0.438

Computer competency was first classified on a five point likert scale as "very high", "high", "medium", "low" and "very low". Since item responses of "very high" and "very low" were too few ( $n<30$ ) for statistical analysis (Ural & Kılıc), the scale was readjusted where item responses of "very high" were combined into "high" while "very low" was combined into

“low.”

When data in Table 6 is examined further, it becomes apparent that as computer competencies of the participants increase, the average score of internet use in their project and assignment preparation is also increases. While prospective teachers with low (3.14) and medium level (3.31) of computer competency have an average level of internet use in their project and assignment preparation, the participants with high level of computer competency (3.52) have a high level of internet use. In order to determine whether the means of these groups have a statistically significant difference or not, ANOVA was performed. ANOVA results for prospective teachers’ internet use in their project and assignment preparation concerning their computer competency is presented in Table 7.

Table 7.:ANOVA results of prospective teachers’ internet use concerning their computer competency in preparing their projects and assignments.

Sources of variance	df	SS	MS	F	p
Between groups	2	4.611	2.306	9.579	0.000
Within groups	291	70.044	0.241		
Total	293	74.656			

When the table 7 is scrutinized, it is observed that F value which is obtained through ANOVA is significant ( $F_{2,291}=9.579$ ;  $p<.05$ ). In order to determine the origin of the difference between the groups Tukey’s HSD test is employed. The results of Tukey’s HSD test revealed that the there is a significant difference between the scores of the participants who have higher level computer competency than who have medium or low level computer competencies. Regarding this findings, it can be claimed that the participants who have higher computer competency, highly make use of internet sources in their project and assignment preparation.

Table 8: Prospective Teachers’ Internet Use in their Project and Assignment Preparation concerning their personal internet access.

Groups	N	$\bar{X}$	SD	df	t	p
Available	84	3.49	.56	292	2.749	0.006
Not available	210	3.31	.47			

When the data in Table 8 is examined, it is observed that the mean scores of the participants who have personal internet access (3.49), is higher than those who do not have personal internet access at home (3.31). Moreover, t-test results revealed that the difference is statistically significant ( $t_{292}=2.749$ ;  $p<.05$ ) on behalf of the participants who have personal internet access at home.

Table 9: Prospective Teachers’ Internet Use in their Project and Assignment Preparation concerning the frequency of their weekly internet use.

Weekly Internet Use	N	$\bar{X}$	sd
1-4 Hours	144	3.24	0.46
5-8 Hours	71	3.46	0.48
9 Hours or more	79	3.49	0.56

The in-depth analysis of the data in Table 9 revealed that the participants’ weekly internet use is directly relates to their benefiting of internet in preparing their projects and assignments. The prospective teachers who have internet access 9 hours or more per week (3.67) have higher scores in using internet in preparing their projects and assignments than those who have less amount of internet access. Additionally, in order to test the significance of difference between these groups ANOVA is employed and its results depicted in Table 10.

Table 10: ANOVA results of prospective teachers’ internet use concerning their weekly internet use in preparing their projects and assignments.

Sources of variance	df	SS	MS	F	p
Between groups	2	3.86	1.928	7.925	0.000
Within groups	291	70.80	0.243		
Total	293	74.66			

When the data in the Table 10 is scrutinized, it is found out that the F value is significant ( $F_{2,291}=7.92$ ;  $p<.05$ ). In order to determine the origin of difference between groups, Tukey’s HSD test is employed. The results of Tukey’s HSD test revealed that there is a significant difference between the scores of the participants who have internet access about 5 to 8 hours per week and 9 hours or more, than those who have 1 to 4 hours internet access per week. Regarding this finding, it can be

claimed that prospective teachers who have higher amount of internet access make use of internet in preparing their projects and assignments.

## RESULTS, DISCUSSION AND SUGGESTION

The findings of the present study revealed that “benefiting of internet” of prospective teachers in preparing their projects and assignments is in the medium level. However, this finding is slightly different than the findings of Oral’s (2004) and Livingstone & Bober’s (2004) studies. It is because in Oral’s (2004) study, 36.5 % of the participants and in Livingstone & Bober’s (2004) study 90 % of the participants make highly use of internet in preparing their projects and assignments.

The findings of the present study with respect to other variables can be summarized as follows; it is observed that gender is not a significant factor in terms of prospective teachers’ internet use in preparing their assignments and projects. Regarding the participants’ grades, it is found out that the 3<sup>rd</sup> graders have higher scores when compared to other grades and the 4<sup>th</sup> graders have the minimum internet use which indicates that they do not take the advantage of using internet in preparing their projects and assignments. It is also found out that those prospective teachers, who have high computer competency, who have personal internet access at home, and who take the advantage of using internet more, have a higher score in benefiting of internet while preparing their projects and assignments.

Concerning the findings of the present study, following suggestions can be proposed;

- Prospective teachers should be guided and informed about using internet sources.
- Prospective teachers should be provided more internet access opportunities for their personal use.

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